1. (Currently amended)   An improved therapy to inhibit the occurrence of premature labor or improve the outcome of premature labor in a pregnant animal experiencing excess free radical generation, said therapy comprising:

administering to said pregnant animal a free radical scavenger or a precursor thereto, in an amount effective to inhibit said occurrence or improve said outcome.

2. (Previously amended).   The improved therapy of Claim 1 further comprising:

administering to said pregnant animal an antibacterial agent in an amount effective to inhibit infection in said pregnant animal.

3. (Previously amended).   The improved therapy of Claim 1 further comprising:

administering to said pregnant animal a tocolytic agent in an amount effective to inhibit uterine contractions in said pregnant animal.

4. (Original).   The improved therapy of Claim 1 wherein said free radical scavenger is glutathione or NAC.

5. (Original) The improved therapy of Claim 1 wherein said free radical scavenger is an antioxidant.

6. (Currently Amended) An improved therapy to inhibit the occurrence of premature labor or improve the outcome of premature labor in a pregnant animal, said therapy comprising:

administering to said pregnant animal a free radical scavenger or a precursor thereto, in an amount effective to inhibit said occurrences or improve said outcome, said free radical scavenger is a spin trapping compound.

7. (Currently amended). An improved therapy for inhibiting the occurrence of premature rupture of membranes in a pregnant animal experiencing excess free radical generation comprising:

administering to said pregnant animal a free radical scavenger agent, or precursor thereto, in an amount effective to inhibit said occurrence of premature rupture.

8. (Currently amended) The improved therapy of Claim 7 wherein the agent is a precursor of glutathione, or NAC.

9. (Previously amended). The improved therapy of Claim 7 wherein the free radical scavenger agent or a precursor thereto, is an antioxidant.

10. (Currently amended) An improved therapy for inhibiting the occurrence of premature rupture of membranes in a pregnant animal comprising:

administering to said pregnant animal a free radical scavenger agent, or precursor thereto, in an amount effective to inhabit said occurrences of premature rupture, said agent is a precursor of said free radical scavenger and is a spin trapping compound.

11. (Currently amended) The improved therapy of Claim 7 wherein the agent is superoxide dismutase, catalse, or glutathione perixodane.

12. (Currently amended). An improved therapy for improving the outcome of preterm deliveries of a pregnant animal experiencing excess free radical generation comprising:

administering to said pregnant animal at least one reactive oxygen species inhibiting compound, or a precursor thereto in an amount effective to improve said outcome of preterm deliveries.

13. (Previously amended). The improved therapy of Claims 1, 7, or 12 wherein said animal is selected from the group consisting of monkeys, cows, sheep, chickens, horses, dogs, cats, and elephants.

14. (Original). The improved therapy of Claims 1, 7, or 12 wherein said animal is mammal.

15. (Original). The improved therapy of Claims 1, 7, or 12 wherein said animal is a reptile.

16. (Original). The improved therapy of Claims 1, 7, or 12 wherein said animal is an amphibian.

17. (Original). The improved therapy of Claims 1, 7, or 12 wherein said animal is human.

18. (Previously amended). The improved therapy of Claims 1, 7, or 12 wherein said animal is a high risk patient selected from the group consisting of patients with a history of preterm labor, patients with preterm labor, cocaine users, preeclamptic patients and patients with preterm premature rupture of membranes.

19. (Cancelled)

20. (Original) The improved therapy of Claims 1, 7 or 12 wherein at least one reactive free radical scavenger is a nitrone, nitroxide or salicylate.

21. (Original) The improved therapy of Claim 20 wherein the nitrone is phenyl-butyl nitrone, or trimethoxyphenyl-butyl nitrone.

22. (Original). A method for detecting *in utero* formation of free radicals capable of inducing fetal damage or leading to preterm labor, the method comprising:

administering a spin trap agent passable through the placental membrane and having different magnetic resonance spectra before and after a free radical is trapped;

detecting by magnetic resonance imaging the location and amount of spin trapping agents that have interacted with a free radical;

wherein the location and amount of free radical activated spin trapping agents shows the presence and amount of free radical species.